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ABSTRACT

This paper presents a concise overview of issues facing educators and their students now and within the next two decades. Issue areas discussed include the current status of professional teacher preparation; forces in the current debate; and projections for the future. Enrollment in teacher education programs and accreditation and certification are considered. These and other issues are reviewed in a future-oriented presentation of the educational odyssey of a student who enters the first grade in 1985 and will finish his academic programs at the beginning of the new millennium. (CB)

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2001: AN EDUCATIONAL ODYSSEY

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ABSTRACT

2001: AN EDUCATIONAL ODYSSEY

The presentation will provide program participants a concise overview of issues facing educators and their students now and within the next two decades. Concerns to stimulate discussion include the current status of professional teacher preparation including major problems and issues; forces in the current debate; and projections for the future. Some emphasis will be placed on following the educational odyssey of a student who entered first grade in 1985 and will finish his academic programs at the beginning of the new millenium.

2001: AN EDUCATIONAL ODYSSEY

by

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Introduction

We are encountering a phenomenal interest in the future, both in the scientific world and in the educational world. The future was once that exciting period somewhere just past the millenium. It is significant that our generation's concept of that future has changed from a science-fiction scenario to casual acceptance of those events which once seemed unattainable. More than three-fourths of all Americans now alive will probably witness that exciting moment at midnight on December 31, 1999. What a New Year's party the world will have--not only a new century, but a new millenium.

We are already beginning to see conferences and exhibits whose themes emphasize that future. The World Future Society, with membership now exceeding 35,000, had over 500 presentations at their Worldview '84 conference in June. Papers ranged from "Planning for the Global High School Class of 2000" to "Impact of Aging and Life Extension," to "Visions of Future Habitats."

Walt Disney's Epcot Center which has thousands of daily visitors reports that some of the most popular exhibits are those which emphasize the future--future land use, the future of communications, the future as seen by scientists and many others

who examine the impacts of computers, robots, and other advancements in technology. Interest in the future is intense, with both fanciful and factual scenarios.

We, hopefully, have progressed in our predictive abilities over the past millenia. We began in prehistoric times with careful observations of star movements, seasonal changes, animal migration and other natural signs in which early man could reasonably predict his future from one year to the next. We have progressed to a more sophisticated methodology such as described by the Hudson Institute's statistical time-series, used to plot both trend lines and to extrapolate likely developments for "alternative futures" (Kahn, 1964).

Daniel Bell states in his preface to The Year 2000, the Hudson Institute's first volume:

> The existence of a trend is no necessary guarantee that it will continue; but knowledge of trends and curves gives us more knowledge of likely developments. Along with time-series, we have begun to construct "models" or likely combination of trends and developments in order to uncover the connections and causal relations between variables.

For those of us who have been science fiction buffs for years, we have finally come into our own. Many people of our generation who never heard of Arthur Clarke, Issac Asimov or who dismissed their writings as futuristic junk are beginning to realize that their "junk" is fast becoming a reality of our lives. Children who shivered with excitement as Ray Bradberry helped them to visualize new worlds and galactic events of the future

are now adults and will tell you quickly that they knew all along how it was to be in 2001. In short, as we move nearer to that event, we can anticipate that larger masses of people will begin to look beyond their daily existence to some vision of great scientific miracles which will enrich their lives. Conversely, we will have many who will predict the Apocalypse or who will be despondent over not being able to adapt or to afford advanced technology in their everyday lives. The increasing disparaties between the developed and less developed countries will be significant.

The purpose of this paper is not to examine the macro-future or whole world as defined by Chris Morgan in his book Future Man or to limit ourselves to his definition of micro-future or future man as an individual; but instead to address two components of these. Primarily, what can we anticipate in elementary/secondary education by the year 2001? Secondly, what occurrences can we anticipate in teacher education as we rush toward 2001?

Some books and articles suggest that only by examining past events can we succeed in predicting future events. Others say the fact that we do not know the total effects of our current actions makes our predictive abilities invalid.

John Naisbitt states in Megatrends that the most reliable way to anticipate the future is by understanding the present. We contend instead that our lack of knowledge regarding the impact of own our actions simply makes our predictions more subject to inaccuracies.

Let us briefly examine some of the past and present events in education as we consider the predictions relative to 2001.

Historical Development of Teacher Education

The notion of preservice teacher education is a very recent and not a very distinguished addition to studies in institutions of higher education. Seven centuries after the establishment of the "universitates," Horace Mann presided over the first normal school designed to train teachers in a separate environment from the universities. The effect of Mann's position on teacher education, isolation from the larger community of scholars, was to hasten the development of the teacher as a technician, but to retard his development as a professional (Kneller, 1971). Mann's insistence upon open admissions standards also caused problems that were not alleviated with his approach to training which emphasized technique over content and numbers of students over intellectual quality of students.

When normal schools began to accept students who did not want to be teachers, they were forced to expand their academic offerings which by the 1920's had resulted in a transformation of the normal school to state teacher's colleges. This, in turn,provided the impetus for state teacher's colleges to continue to expand until they became multi-purpose state universities (Bullough, 1982).

This change of teacher colleges to university status has incurred problems as educators have attempted to identify the

goals and purposes of teacher education as well as the subsequent procedures for evaluation of these programs. Purposes of teacher education have often been ambiguous, variable, and in some cases without rationale. The discrepancy between theory and practice has continued to discredit teacher education. It has taken some time to accept the assumption that the most effective teacher education programs are those that produce teachers who are the most effective in producing desired changes in pupils (Mitchell, 1977).

Major Issues of the Eighties and Nineties

A look at problems and major issues in teacher education mirror the problems occurring in the broader university and in the broader society. Presidents of colleges were surveyed at the beginning of the 1980's to predict future problems and challenges for their institutions. Primary concerns were dwindling finances, changing missions and goals, and declining enrollments with program development and improvements as secondary concerns (Duea, 1981). These same major issues existed in teacher education. Enrollments in some preparation programs were low and competitive recruiting for the better student continues to be frustrating. The poor status of the economy of some states has led to proration of education funds during the early part of this decade. As a result, Schools of Education have suffered cutbacks in appropriated funds with a similar decline in federally appropriated soft money. Many of the schools or departments had to retrench, causing the loss of budgeted positions, with the resulting condition that many programs have become stagnant.

This state of affairs is cause for enormous concern as we prepare the teacher who will begin his/her career in 2001.

Under many certification and accreditation guidelines, stringent program requirements have been installed at both the entry and exit levels. While this is highly admirable under ordinary conditions, the slowly improving job market in some areas and relatively low salaries don't provide an appropriate reward for graduates of demanding preparation programs (Williams and Willard, 1982).

It is also apparent that Schools of Education may have greater difficulty in the recruitment of minority students into preparation programs. It is significant to note that even in the highly attractive professional fields, black enrollment as a percentage of total enrollment has dropped (May, 1981). Schools of Education may have considerable difficulty in attracting minority students at a time when there are lucrative careers for them in fields not requiring graduate study.

Another issue is the fact that many states are now demanding accountability as measured by an examination of education graduates prior to permanent certification. Students may be faced with the potential of holding a meaningless degree if the preparation program has not adequately prepared them to qualify for a certificate. An increase in numbers of students who cannot secure permanent certification will cause more institutions to face legal actions. A case in point is the current litigation in

Alabama challenging the validity of teacher certification examinations for minority teacher education graduates.

Another issue concerns the standards of the various accrediting agencies which mandate, in addition to the usual laboratory experiences, varied multi-cultural field experiences to ensure that all students have encountered a variety of pupil and school populations. The current trend is toward minimum funding to support these increased field-based experiences as state legislators remain unconvinced that teacher education is a laboratory-based field of study.

As the report from the President's Commission for a National Agenda for the 80's described in "The Kappan", indicates there is a demanding array of tasks for teacher educators based on some of the following projections:

1. U. S. Census Bureau projections suggest that 48% of all children born in 1980 will live a considerable time with only one parent before they reach the age of 18, causing more academic and disciplinary problems than their peers in two-parent homes.

2. The number of elementary age children was expected to drop another 4% in the early 80's, then begin to increase by 1990. At that time racial minority representation will be close to 18% as compared to 15% of the total population earlier.

3. The number of high school age students is expected to decline about 19% during the 1980's with an increase in 1990 of racial minorities, particularly those of the Hispanic group which is expected to grow more rapidly than black or white populations.

To further support this statement, Michael Annison said in a recent speech at AASCU, California with its large Hispanic

population will become the first state in which a national minority group will be a majority.

Add to these concerns, the dramatic increase in the number of working women who have special educational needs. Other special groups include the unemployed and the senior citizens who will have unique educational needs that must be met by higher education agencies. These nontraditional students are discussed by William Wang in his series of articles on "The Beginnings of Dismantling" in Improving College and University Teaching as he describes the pressures placed on the traditional university from these students. He anticipates the next decade as being one in which universities must adapt or be changed by outside forces. Probably one of the most disturbing factors universities must face in this period will be the certifying of graduates who have demonstrated proficiency by examinations, graduates who have had unsupervised independent study or graduates with little or no on-campus time.

As a colateral problem, the 1980 report of the U. S. Department of Education and the National Science Foundation indicates that most Americans are moving toward "virtual scientific and technological illiteracy." The sixteen year decline of SAT scores included both the best and brightest students as well as the less talented.

In 1984, John Naisbitt in Megatrends states:

> The generation graduating from high school today is the first generation in American history to graduate less skilled than its parents.

We're all familiar with the 1983 education reports, which reinforced Naisbitt's statement, with the widely quoted "rising tide of mediocrity" and the "ill-educated, ill-employed and ill-equiped youth." Despite these much discussed inadequacies, the advent of "high technology" and "high touch" during the remainder of the final two decades of this century will continue to be evident as more universities and more elementary and secondary schools include computer literacy and values education in their curricula. There must be a sense of computer ethics incorporated into this curriculum. Computer abuse, fraud and just plain vandalism of programs must be addressed as we involve more of our students with computers and as they become more knowledgeable. Movies such as "Superman III" and "War Games" popularize computer fraud and vandalism. As an example, during July, 1984, in Huntsville, Alabama, a thirteen year old boy and several of his "hacker" friends were able to penetrate NASA's elaborate computer security system in true "War games" style. We must address this new ethics problem within the broader context of traditional ethics.

Apparently, universities and schools are not attempting to lead in computer education even though they are now the third largest users of computers.

Teacher education today exists in an environment of galloping technological and scientific advancement. This rate of change has frustrated educators in colleges and universities in a way perhaps unprecedented in American higher education. Michael Annison has suggested that a normal reaction to the stress of change is a return to the values of the previous generation as shown by the current popularity of the "Back to Basics" movement.

We cannot afford to prepare for 2001 by retreating twenty years. There must be instead an effort to interface the present with the future. This will be particularly difficult when we are looking squarely in the face of fierce drives toward educational excellence in several states. We will be evaluating people in a world of high technology who were educated in an earlier manufacturing oriented society. This will be a difficult time in which to implement procedures for determining accountability.

Future Trends in Education

Moving from trends and issues of the eighties and nineties, let's look at several views in the literature as we try to project some sort of pattern for the future.

As depicted in the book, Educating for a New Millennium by Harold Shane and Bernadine Tabler, there are five images of tomorrow suggested for the year 2000. Two of the more positive views were the following:

1. Tomorrow will be just the same as today, but with fewer problems and will include a more equitable sharing of the products of a more industrialized world.

2. The world will be based on greater scientific, technological know-how which promises to insure improved global standards of living.

Three images were more depressing. They are the following:

3. Economic factors will cause a return to a low-energy, more labor intensive era with more and more people competing for dwindling and irreplaceable resources.

4. The world will be based on authoritarian controls to curb socio-economic and environmental ills, decreasing proportionally one's personal freedom.

5. A world that is completely transformed, to include bizarre environments, splintered value systems, and different lifestyles as depicted in Alvin Toffler's The Third Wave.

Other "think-tank" images and predictions for the future include, of course, the possibilities of a world dominated by third-world countries and raw nuclear power. Other predicted nightmares are major world-wide depressions, an economically stagnating world, a new wave of mass or elitist movements, and social controls of various kinds intruding in one's life. Obviously, there are past and current patterns that would allow us to accept a composite of all these predictions. We personally believe the future looks brighter than ever.

Steve Rosen in his book, Future Facts presents a fascinating compendium of ideas relating to education of students of the future. He suggests that experiments in intelligence-type tests which measure "the brain's physical ability to learn" could be a more reliable method than we currently use. The subject looks at a light and the computer analyzes how quickly his brain responds to it. The inventors of the system contend that it is a completely involuntary objective test of learning ability.

Another intriguing idea is a computer-aided technique to improve memory and make mental images easy to recall. The computer system monitors the brain waves while the subject looks at something he/she wishes to remember. Later, the same brain wave pattern is "played back" as an aid to recall. The computer feeds back those temporal and spatial cues that serve as keys to memory retrieval. Another related technique is to stimulate the brain, using external electrodes, as the subject looks at whatever is to be remembered. This is to reinforce the mental image so that it will be stronger and longer lasting.

If we move into more controlled environments in the future, chemical transfer of learning is another possible source of information and congnitive enhancement.

Chris Morgan in his book, Future Man recommends that we should decrease our emphasis on teaching the past, especially the pre-industrial era. In the science classes of the future, as textbooks become outdated, he recommends developing liaison groups between teachers and scientists which he calls "interpreter groups" to facilitate the scientific breakthroughs and their subsequent dissemination. The decision to send a teacher into space is a significant development toward such a liaison.

Lias in his book Future Mind states that future students, parents and teachers could have available the tremendous resources of information that can be accessed and analyzed

through computers. Dialing into specialized library resources could present them any of the world's knowledge, some of it in interactive form, arranged for personalized presentation.

With these trends in mind, let's consider a student who enters first grade this year. Our scenario projects his education beyond the millenium.

The Education Scenario of Christopher: 1984-2001

Christopher is excited about going to school. His kindergarten class last year was excellent. He is motivated, has mastered basic skills in mathematics, reading, and language development. He is knowledgeable about micro-waves, micro-computers, video-discs, and digital clocks. He still likes to be read to and has a large collection of books in traditional form. His first grade classroom has access to a micro-computer for approximately one hour two times a week, which is not a hardship since 20% of the student's families have personal computers, including Christopher's family.

During Christopher's second, third, and fourth years in school, his school system has changed to an innovative format. The system has taken advantage of the federal government's emphasis on students being prepared for anticipated technological advances. Students with high aptitude are scheduled into beginning classes in computer use related to problem solving, and computer assisted interactive instruction in mathematics, languages and research. The school system qualified for additional faculty and equipment for these classes through filing

a plan for non-discriminatory practices and providing twenty minutes a day for supervised meditation and/or religious practices. Christopher is enrolled in private classes concerned with the humanities during a portion of each school day. Private foundations have taken the lead in providing the funds for every student who pursues the arts, literature and non-technologic languages.

Compulsory education laws have been abolished in Christopher's state enabling him to attend these private classes in conjunction with his public school sessions. His parents, both educators, belong to their neighborhood educational group who work exclusively in their homes with gifted and talented students. Each member of the home education group assumes a teaching role in an appropriate area of gifted education and is responsible for the students in their particular neighborhood group. Christopher's classmates follow a somewhat similar pattern since they have been tested, grouped, and chemically remediated, if necessary. All students have access to public or private education or a combination of both at no additional cost to their families.

This changing educational pattern continues for the remainder of the century. By the time Christopher enters his last years of what has traditionally been termed a formal education, he has been responsible for some years for his own learning. It is not required that he attend a specific number of hours in school and he does much of his work from his study room

in his home. He is linked by video with an instructor who plans his yearly schedules and programs his curriculum and study guides to meet his individual needs and preferences. Christopher is one of hundreds of students all over the nation who are living and learning in a "class" that encompasses only one instructor and multiple study programs which extend through all time zones, school and university districts.

Conclusion

Far out? Perhaps. On the other hand, if John Naisbitt, Harry Stine, Chris Morgan and Edward Lias are accurate in their predictions, this kind of educational program is no more unrealistic for the year 2001 than today's educational program would have been when most of us were deciding to pursue a career in teaching. It is certain that not only is change inevitable but more importantly the rate of change is accelerating.

What is crucial for us today is that we develop a mind set that accepts that rapidly increasing rate of change. If we as teacher educators continue to view teacher education in the same context as we have for the last eighteen years or since 1967, we will lose our monopoly on training of teachers. If public education is to survive and if the public institutions of higher education continue to prepare teachers for this new world we must start a controlled revolution in our methodology. Accountability for the quality of students we graduate is not a fad. Evaluation will be real for our programs and for the performance of our graduates.

It is imperative that we seek ways to revitalize the university professionals currently in our field. This will undoubtedly be more difficult than changing the mind set for those who will begin teaching careers in 2001. Those people will have grown up in the world of computers, micro-chips, space technology and other advancements in numerous fields such as medicine, engineering, genetics, communications and travel.

In essence, those we teach will be ready for new methods which we may be unable or unwilling to provide. Their future is inevitable. Ours may be irrevocable: a product of our own willingness, or unwillingness to change.

Stine tells us to "lead, follow, or get out of the way!" Which of those roles will we in higher education assume? Only time will tell.

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